

What is claimed is:

1. A magnetic recording head comprising:  
a write pole having a tip adjacent to an air bearing surface of the recording head;  
a return pole magnetically coupled to the write pole;  
a conductor positioned adjacent to at least one edge of the write pole at the air bearing surface for carrying current to produce a magnetic field that saturates at least a portion of the write pole and augments a write field;  
a first conductive heat sink connected to a first end of the conductor; and  
a second conductive heat sink connected to a second end of the conductor.
2. The magnetic recording head of claim 1, wherein the conductor is positioned between the write pole and the return pole along the air bearing surface.
3. The magnetic recording head of claim 2, wherein the conductor has a width less than a distance between the write pole and the return pole at the air bearing surface.
4. The magnetic recording head of claim 2, wherein the conductor has a width substantially the same as a distance between the write pole and the return pole at the air bearing surface.
5. The magnetic recording head of claim 1, wherein the conductor is positioned adjacent to a side of the write pole opposite the return pole along the air bearing surface.
6. The magnetic recording head of claim 1, wherein the conductor is connected to the first and second conductive heat sinks adjacent to a corner of each of the first and second conductive heat sinks.
7. The magnetic recording head of claim 1, wherein the conductor has a rectangular cross-section having a width along the air bearing surface greater than a thickness substantially perpendicular to the air bearing surface.
8. A disc drive comprising:  
a motor for rotating a storage medium; and  
an arm for positioning a recording head adjacent to the storage medium;

wherein the magnetic recording head includes a write pole having a tip adjacent to an air bearing surface of the recording head, a return pole magnetically coupled to the write pole, a conductor positioned adjacent to an edge of the write pole at the air bearing surface for carrying current to produce a magnetic field that saturates at least a portion of the write pole and augments a write field, a first conductive heat sink connected to a first end of the conductor, and a second conductive heat sink connected to a second end of the conductor.

9. The disc drive of claim 8, wherein the conductor is positioned between the write pole and the return pole along the air bearing surface.

10. The disc drive of claim 9, wherein the conductor has a width less than a distance between the write pole and the return pole at the air bearing surface.

11. The disc drive of claim 9, wherein the conductor has a width substantially the same as a distance between the write pole and the return pole at the air bearing surface.

12. The disc drive of claim 8, wherein the conductor is positioned adjacent to a side of the write pole opposite the return pole along the air bearing surface.

13. The disc drive of claim 8, wherein the conductor is connected to the first and second conductive heat sinks adjacent to a corner of each of the first and second conductive heat sinks.

14. The disc drive of claim 8, wherein the conductor has a rectangular cross-section having a width along the air bearing surface greater than a thickness substantially perpendicular to the air bearing surface.

15. A magnetic recording head comprising:  
a write pole having a tip adjacent to an air bearing surface of the recording head;  
a return pole magnetically coupled to the write pole;  
a conductor positioned adjacent to at least one edge of the write pole at the air bearing surface;  
a first conductive heat sink connected to a first end of the conductor; and  
a second conductive heat sink connected to a second end of the conductor;

wherein current in the conductor and the first and second conductive heat sinks produces a magnetic field that saturates at least a portion of the write pole and augments a write field.

16. The magnetic recording head of claim 15, wherein the conductor is positioned between the write pole and the return pole along the air bearing surface.

17. The magnetic recording head of claim 16, wherein the conductor has a width less than a distance between the write pole and the return pole at the air bearing surface.

18. The magnetic recording head of claim 16, wherein the conductor has a width substantially the same as a distance between the write pole and the return pole at the air bearing surface.

19. The magnetic recording head of claim 15, wherein the conductor is positioned adjacent to a side of the write pole opposite the return pole along the air bearing surface.

20. The magnetic recording head of claim 15, wherein the conductor is connected to the first and second conductive heat sinks adjacent to a corner of each of the first and second conductive heat sinks.

21. The magnetic recording head of claim 15, wherein the conductor has a rectangular cross-section having a width along the air bearing surface greater than a thickness substantially perpendicular to the air bearing surface.